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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,829	11/12/2003	Timothy L. Lambert	0204-PA	8833

7590 05/15/2008  
CROMPTON CORPORATION  
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EXAMINER
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BOYER, RANDY

ART UNIT	PAPER NUMBER
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1797

MAIL DATE	DELIVERY MODE
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05/15/2008

PAPER

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* TIMOTHY L. LAMBERT and WERNER A. THURING

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Appeal 2008-1412  
Application 10/712,829  
Patent Application Publication 2005/0101761  
Technology Center 1700

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Decided : May 15, 2008

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Before FRED E. McKELVEY, *Senior Administrative Patent Judge*,  
SALLY GARDNER LANE, and MICHAEL P. TIERNEY, *Administrative  
Patent Judges*.

LANE, *Administrative Patent Judge*.

DECISION ON APPEAL

**I. STATEMENT OF THE CASE**

The appeal is from a Final Rejection of claims 1-20. 35 U.S.C. § 134.  
We have jurisdiction under 35 U.S.C. § 6(b). We reverse the rejection.

The application was filed on November 12, 2003. The application  
was published as U.S. Patent Application Publication 2005/0101761 (“Pub.  
2005/0101761”) on May 12, 2005. The real party in interest is said to be  
Chemture Corporation. (App. Br. at 2).

The following U.S. patents were relied upon by the Examiner:

<u>Name</u>	<u>Patent/Publication No.</u>	<u>Issue/Publication Date</u>
Ishikawa et al.	3,567,795	Mar. 2, 1971
Huang et al.	5,712,214	Jan. 27, 1998
Wettling et al.	2003/0162918	Aug. 28, 2003

Appellants do not dispute the prior art status of any of these references.

The Examiner rejected claims 1-20 under 35 U.S.C. § 103(a), over the combined teachings of Wettling, Ishikawa, and Huang. (Ans. at 3).

We review the rejection of claim 1, as a representative claim because Appellants did not separately argue the rejection of any of the claims. *See* Bd. R. 41.37(c)(1)(vii).

## **II. Findings of Fact**

### **1. Claim 1 recites:**

A method for reducing levels of residual halogen and Group IIIb metals in a crude poly( $\alpha$ -olefin) polymerized in the presence of a catalyst comprising the halogen and Group IIIb metals, wherein the method comprises:

- A) washing the crude poly( $\alpha$ -olefin) with water;
- B) separating the aqueous and organic phases;
- C) then adding an adsorbent selected from the group consisting of magnesium silicates, calcium silicates, aluminum silicates, aluminum oxides, and clays to the organic phase to form a slurry;
- D) heating the slurry under reduced pressure at a temperature of at least about 180° C for at least about thirty minutes; and then
- E) separating the adsorbent from the slurry.

2. Wettling relates to the preparation of polyisobutylenes by polymerization of isobutylene or isobutylene-containing hydrocarbon streams in the presence of boron trifluoride acting as catalyst, the catalytic

activity of the boron trifluoride being extinguished by means of a solid deactivator following a given timelapse. (Wettling at ¶ [0001]).

3. The Examiner referred to the polyisobutylene of Wettling as a polyolefin (*see e.g.*, Ans. at 4, ll. 1-2) and Appellants did not dispute this characterization.

4. Boron trifluoride is a catalyst comprising a halogen and Group IIIb metal. (*See* Pub. 2005/0101761 at ¶ [0044]).

5. Wettling teaches adding water in a first deactivation stage as a “liquid deactivator.” (Wettling at ¶ [0062]).

6. Wettling continues by teaching that the “resulting, usually liquid, phase is then separated.” (Wettling at ¶ [0062]).

7. Wettling teaches a second stage, in which “the residual activity is extinguished using an inorganic, anhydrous or hydrous oxygen compound of aluminum.” (*Id.* at ¶ [0062]).

8. Wettling teaches heating a mixture of deactivator and polyisobutylene sample to “+20 °C. in the sealed sampling glass during the following 60 minutes with stirring by a magnetic agitator.” (Wettling at ¶ [0075]).

9. After heating, Wettling teaches: “The deactivator was then separated and the remaining organic phase washed with 167 g of water. Following separation of the aqueous phase, the solvent was removed by distillation . . . .” (*Id.*).

10. The “sealed sampling glass” used in Wettling would not create “reduced pressure.”

11. Ishikawa “relates to a new process of eliminating polymerization catalysts from polymerization products obtained by the

process of making liquid or semi-solid hydrocarbon polymers with a catalysts [sic] of Friedel-Crafts type.” (Ishikawa at col. 1, ll. 26-30).

12. The Friedel-Crafts type catalysts taught in Ishikawa include “anhydrous aluminum chloride for the manufacture of liquid or semi-solid hydrocarbon polymers such as butylene polymers . . . .” (*Id.* at col. 1, ll. 31-33).

13. Catalysts that include aluminum chloride are catalysts comprising a halogen and Group IIb metal. (Pub. 2005/0101761 at ¶ [0044]).

14. In an example disclosed in Ishikawa, sodium silicate is added to a polymer solution and stirred, followed by separation and removal of the aqueous solution, and ultimately the solution is “placed in a rotary evaporator where solvent and low molecular weight polymers [polybutylene] are removed at 100° C, 10 m./m. Hg for 30 minutes.” (Ishikawa at col. 5, ll. 16-18).

15. Huang does not teach heating the polymer solution to “at least about 180° C.” (Claim 1).

16. Huang relates to “regeneration of reforming catalysts. More specifically, the present invention is directed to an improved regeneration process for zeolite-based reforming catalysts which involves low pressure, high temperature, wet post-treatment after the oxychlorination stage of the regeneration process.” (Huang at col. 1, ll. 20-25).

17. Huang teaches “Post-Oxyhalogenation Stripping” and that the “purpose of stripping is to remove excess halogen, i.e., chlorine, from the catalyst.” (*Id.* at col. 4, ll. 52-54).

18. Huang teaches that

to promote and enhance the efficiency of chlorine evolution, it is important that the stripping step be done at as low a pressure as practicable. In most cases this is about atmospheric pressure, i.e. 14.7 psia; however, stripping can be enhanced by pulling vacuum on the reactors.

It is also important to maintain a temperature of at least about 450° C., preferably within the range of about 450° C. to about 530° C., more preferably of about 480° C. to about 520° C., and most preferably at about 510° C. during stripping.

(*Id.* at col. 5, ll. 13-21).

19. Neither poly( $\alpha$ -olefins) nor halogen stripping of catalysts in the presence of poly( $\alpha$ -olefins) are expressly discussed in Huang.

### **III. Issues**

The issue is whether the Examiner erred in rejecting claims 1-20 as being unpatentable under 35 U.S.C. § 103(a), over the combined teachings of Wettling, Ishikawa, and Huang.

### **IV. Legal Principles**

To determine whether subject matter would have been obviousness, “the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. . . . Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966).

“The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of

success, viewed in the light of the prior art.” *In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988).

When elements of an invention are found in multiple references, the Supreme Court recognized that

[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

*KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1740-41 (2007). In addition, the Court noted that “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 1741. Indeed, “[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 1742.

## **V. Analysis**

Claim 1 recites:

A method for reducing levels of residual halogen and Group IIIb metals in a crude poly( $\alpha$ -olefin) polymerized in the presence of a catalyst comprising the halogen and Group IIIb metals, wherein the method comprises:

- A) washing the crude poly( $\alpha$ -olefin) with water;
- B) separating the aqueous and organic phases;
- C) then adding an adsorbent selected from the group consisting of magnesium silicates, calcium silicates, aluminum silicates, aluminum oxides, and clays to the organic phase to form a slurry;

D) heating the slurry under reduced pressure at a temperature of at least about 180° C for at least about thirty minutes; and then

E) separating the adsorbent from the slurry.

(FF 1).

Wettling relates to the deactivation of a boron trifluoride catalyst (FF 2), that is a catalyst that contains a halogen and Group IIIb metal (FF 4). The catalyst in Wettling is used in the preparation of polyisobutylene, which is understood to be a poly( $\alpha$ -olefin) (FF 3). Wettling teaches that water can be added to the reaction mixture containing this poly( $\alpha$ -olefin) for deactivation of the catalyst. (FF 5). Wettling teaches separating the liquid phase (FF 6) resulting from addition of water, and adding another deactivator comprised of “an inorganic, anhydrous or hydrous oxygen compound of aluminum” (FF 7). In an example of Wettling, the mixture is heated in a sealed sampling glass (FF 8) and then separated to remove the solvent (FF 9). Wettling does not disclose heating the mixture of deactivator and crude poly( $\alpha$ -olefin) plus catalyst to “at least about 180° C for at least thirty minutes,” as claimed, nor does it disclose heating the mixture under reduced pressure. (FF 10).

Ishikawa, which relates to “eliminating polymerization catalysts from polymerization products” (FF 11), teaches adding sodium silicate to a hydrocarbon polymer (polybutylene) solution containing a Friedel-Crafts type catalyst, such as anhydrous aluminum chloride (FF 12), wherein aluminum chloride is a halogen and Group IIIb metal catalyst (FF 13). This mixture is heated at “100° C., 10 m./m. Hg for 30 minutes” in Ishikawa. (FF 14). Ishikawa does not disclose heating the mixture of catalyst, poly( $\alpha$ -olefin), and deactivator to 180° C.



Huang relates to regenerating catalysts. (FF 16). Huang also discloses techniques for halogen stripping of the catalyst (FF 17) by heating at “as low a pressure as practicable” to “a temperature of at least about 450° C . . . .” (FF 18). Huang does not expressly discuss poly( $\alpha$ -olefins) or halogen stripping of catalysts in the presence of poly( $\alpha$ -olefins). (FF 19).

Those of skill in the art at the time of Appellants’ application would not have had reason to combine the teachings of Huang with those of Wettling and Ishikawa. The temperature taught by Huang for halogen stripping of catalysts, “at least about 450° C” (FF 18), is significantly higher than the temperature taught by Wettling, 20° C (FF 8), or Ishikawa, 100° C (FF 14). More important, however, is that Huang teaches using this high temperature to strip halogens from catalysts alone, not in the presence of a poly( $\alpha$ -olefin) (FF 18), as Wettling and Ishikawa teach (FFs 8 and 14). Thus, those in the art would not have had a reason to use catalyst regeneration temperatures to strip catalyst residues from a solution containing poly( $\alpha$ -olefin). Without a reason to look to Huang, the claim element of “at least 180° C” would not have been obvious to those of skill in the art. In our view, the rejection is based on impermissible hindsight. Accordingly, the Examiner erred in rejecting claims 1-20 under 35 U.S.C. § 103(a) over the combination of Wettling, Ishikawa, and Huang.

#### New ground of rejection

We have set aside the Examiner's rejections under 35 U.S.C. § 103(a). Nevertheless on their current record, we do not feel that the claims on appeal are patentable.

Claims 1-20 are rejected as being unpatentable under the second paragraph of 35 U.S.C. § 112.

*First*, on the record before us, the claims fail to particularly point out the claimed subject matter, *i.e.*, the claims are indefinite.

*Second*, on the record before us, Appellants claim subject matter that they may not regard as their invention.

A.

The evidence in support of the rejection can be found in the specification.

*First*, we note that Appellants do not identify any particular PAO in the specification. Appellants tell us that a PAO is a poly-alpha-olefin (Pub. 2005/0101761 at ¶ [0030]), but do not indicate which PAO is used in Examples 1 through 24. Accordingly, one skilled in the art would not be able to reproduce the experiments reported in Examples 1 through 24 because one skilled in the art would not know which PAO to use. We have no idea why Appellants have not identified the particular PAO used in the experiments. We will assume that the same PAO was used in Examples 1-24.

*Second*, we note that Examples 1-10, 13-16 and 20 are reported as "comparative examples." On the other hand, Examples 11-12, 17-19 and 21-24 are reported as "invention" examples. Based on Appellants' use of "comparative" and "invention," one skilled in the art would find that the "comparative" examples are *not* part of Appellants' invention while the "invention" examples are part of Appellants' invention.

*Third*, according to the specification, the vacuum should be “at least about 50 mm Hg.” (Pub. 2005/0101761 at ¶ [0050]). No claim contains a limitation requiring the vacuum to be at least 50 mm Hg.

*Fourth*, according to the specification, the magnesium silicate usage levels should be “at least about 0.4 eq./ Mg/eq. halogen.” (Pub. 2005/0101761 at ¶ [0052]). But, claims 1-7, 9, 11-17, 19, and 20 do not contain a limitation requiring a particular amount of adsorbent when magnesium silicate is used.

*Fifth*, nowhere does the specification clearly define what Appellants mean by the phrase “reducing the levels of residual halogen and Group IIIb metals . . . .” Specifically, it is hard to determine on this record what Appellants mean by the claim term “reducing.”

B.

Claim 1 reads [bracketed matter added for clarity]:

A method of reducing levels of residual halogen and Group IIIb metals in a crude poly( $\alpha$ -olefin) polymerized in the presence of a catalyst comprising the halogen and Group IIIb metals, wherein the method comprises:

- A) washing the crude poly( $\alpha$ -olefin) with water [to form an aqueous phase and an organic phase];
- B) separating the aqueous and organic phases;
- C) then adding an adsorbent selected from the group consisting of magnesium silicates, calcium silicates, aluminum silicates, aluminum oxides, and clays to the organic phase to form a slurry;
- D) heating the slurry under reduced pressure at a temperature of at least about 180° at least about thirty minutes; and then
- E) separating the adsorbent from the slurry.

The bracketed matter is added to provide an antecedent for the aqueous and organic phases mentioned in Step B). *Cf.* the language "to form a slurry" in Step C), which provides an antecedent for "the slurry" in Step D.

We note that the 180° C and thirty minutes limitation appeared in the claims as filed. (Spec. pgs. 16 and 18).

C.

The data from Table 1 has been converted to an Excel spreadsheet and incorporated into this opinion.

Table 1

Example	Invention	Comparative	Magnesium silicate		Vacuum strip temp. ° C	Vacuum strip time min.	Bromine ppm	Aluminum in ppm
			A	B				
1		x	0.16	0.1	160	90	1210	1
2		x	0.16	0.1	160	180	1098	1
3		x	0.16	0.1	200	90	687	1.1
4		x	0.16	0.1	200	180	551	1.1
5		x	0.30	0.25	200	90	688	3.1
6		x	0.30	0.25	200	180	599	3.1
7		x	0.40	0.37	200	30	383	<0.1
8		x	0.40	0.37	200	180	771	<0.1
9		x	0.40	0.37	200	90	428	<0.1
10		x	0.60	0.56	200	105	628	<0.1
11	x		0.78	0.5	200	90	169	0.1
12	x		0.78	0.5	200	180	92	0.1
13		x	0.78	0.5	160	90	731	0.4
14		x	0.78	0.5	160	180	476	0.4
15		x	0.78	0.5	160	90	881	0.4
16		x	0.78	0.5	160	180	792	0.4
17	x		0.80	0.74	200	180	81	<0.1
18	x		0.80	0.74	200	30	118	<0.1
19	x		0.80	0.74	200	90	70	<0.1
20		x	1.2	1.0	200	90	266	0.1
21	x		1.2	1.0	200	180	105	0.1
22	x		1.0	--	180	90	206	N.M.
23	x		4.3	--	180	90	132	N.M.
24	x		1/1**	--	180	90	167	N.M.

The first sort of the spreadsheet data is to separate "comparative" and "invention" and within each sort by example number:

Table 1

Example	Invention	Comparative	Magnesium silicate		Vacuum strip temp. ° C	Vacuum strip time min.	Bromine ppm	Aluminum in ppm
			A	B				
1		x	0.16	0.1	160	90	1210	1
2		x	0.16	0.1	160	180	1098	1
3		x	0.16	0.1	200	90	687	1.1
4		x	0.16	0.1	200	180	551	1.1
5		x	0.30	0.25	200	90	688	3.1
6		x	0.30	0.25	200	180	599	3.1
7		x	0.40	0.37	200	30	383	<0.1
8		x	0.40	0.37	200	180	771	<0.1
9		x	0.40	0.37	200	90	428	<0.1
10		x	0.60	0.56	200	105	628	<0.1
13		x	0.78	0.5	160	90	731	0.4
14		x	0.78	0.5	160	180	476	0.4
15		x	0.78	0.5	160	90	881	0.4
16		x	0.78	0.5	160	180	792	0.4
20		x	1.2	1.0	200	90	266	0.1
11	x		0.78	0.5	200	90	169	0.1
12	x		0.78	0.5	200	180	92	0.1
17	x		0.8	0.74	200	180	81	<0.1
18	x		0.8	0.74	200	30	118	<0.1
19	x		0.8	0.74	200	90	70	<0.1
21	x		1.2	1.0	200	180	105	0.1
22	x		1.0	--	180	90	206	N.M.
23	x		4.3	--	180	90	132	N.M.
24	x		1/1**	--	180	90	167	N.M.

The second sort is to eliminate all Examples which do not fall within the scope of at least one claim. Those Examples are 1-2 and 13-16 where the vacuum strip temperature is not "at least about 180° C."

Table 1

Example	Invention	Comparative	Magnesium silicate		Vacuum strip temp. ° C	Vacuum strip time min.	Bromine ppm	Aluminum in ppm
			A	B				
3		x	0.16	0.1	200	90	687	1.1
4		x	0.16	0.1	200	180	551	1.1
5		x	0.30	0.25	200	90	688	3.1
6		x	0.30	0.25	200	180	599	3.1
7		x	0.40	0.37	200	30	383	<0.1
8		x	0.40	0.37	200	180	771	<0.1
9		x	0.40	0.37	200	90	428	<0.1
10		x	0.60	0.56	200	105	628	<0.1
20		x	1.2	1.0	200	90	266	0.1
11	x		0.78	0.5	200	90	169	0.1
12	x		0.78	0.5	200	180	92	0.1
17	x		0.8	0.74	200	180	81	<0.1
18	x		0.8	0.74	200	30	118	<0.1
19	x		0.8	0.74	200	90	70	<0.1
21	x		1.2	1.0	200	180	105	0.1
22	x		1.0	--	180	90	206	N.M.
23	x		4.3	--	180	90	132	N.M.
24	x		1/1**	--	180	90	167	N.M.

D.

The data reveals that all Examples, except 1-2 and 13-16, (1) add a magnesium silicate adsorbent to form a slurry, (2) heat the slurry to at least about 180° C, (3) for a period of at least about thirty minutes.

However, Examples 3-10 and 20 may not be illustrative of the "invention." Rather, they are "comparative examples." As noted earlier, one skilled in the art reading the data would find that Examples 3-10 and 20 do not embody the invention.

Since claim 1 reads on the subject matter in Examples 3-10 and 20, which Appellants do not regard as their invention, claim 1 is unpatentable under the second paragraph of 35 U.S.C. § 112. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969). The analysis is the same for claims 2-7, 9, 11-17 and 19-20.

Furthermore, claims 8, 10 and 18 require that the adsorbent be employed at a level of at least about 0.4 eq. metal/eq. halogen, but Examples 7-10 and 20, which are “comparative,” describe the use of at least 0.4 eq. metal/eq. halogen, thus reading on claims 8, 10 and 18. Likewise, these claims cover subject matter which applicants do not regard as their invention.

E.

As noted earlier, according to the specification: “[t]he vacuum should be at least about 50 mm Hg . . . .” (Pub. 2005/0101761 at ¶ [0050]). The claims do not limit the vacuum to any particular value. Values above 50 mm do not appear to be Appellants' invention. For this additional reason, the claims cover subject matter which the applicants do not regard as their invention.

F.

Also as noted earlier, according to the specification: the magnesium silicate usage levels should be at least about 0.4 eq. Mg/eq. halogen. (Pub. 2005/0101761 at ¶ [0052]). Some of the claims do not have a usage level limitation. Claims which do not have a usage level limitation would appear to cover subject matter not regarded by Appellants as being their invention.



G.

The fact that a relative term is used in a claim does not per se render the claim indefinite. *In re Mattison*, 509 F.2d 563, 564-65 (CCPA 1975). However, when one skilled in the art cannot reasonably determine what falls within the scope of a relative term, then the claim is indefinite. *See* generally the Federal Circuit's discussion in *Halliburton Energy Services, Inc. v. M-I LLC*, 514 F.3d 1244 (Fed. Cir. 2008). To the extent there is any doubt about indefiniteness, the time to do something about it is while the application is pending. *In re Zletz*, 893 F.2d 319, 322 (Fed. Cir. 1989) (an essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous; only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process). To await litigation is to debilitate the patent system. *Graham v. John Deere Co.*, 383 U.S. 1, 18 (1966).

A review of the data from Table 1 reveals that lowering the bromine content to between a range of 70 ppm to 206 ppm would fall within the invention. See Examples 19 and 22. On the other hand, lowering the bromine content to 266 ppm (Example 20) and even to 771 ppm (Example 8) also falls within the invention as currently claimed, because the parameters of these examples are as claimed.

The question becomes: What does “reducing” mean to one having ordinary skill in the art? It certainly does not mean achieving a level of 266 ppm where bromine is concerned. On the other hand it probably means achieving a level of 206 ppm. Where between 206 ppm and 266 ppm does one skilled in the art draw the line? In an infringement case, Appellants (now patentees) would contend that achieving a level of 265 ppm falls

within the claim. The infringer would contend that nothing more than 206 ppm falls within the claims. The debate needs to be resolved while the application is pending and before it starts in an infringement context. We have discussed our rationale with respect to bromine. Where chlorine and other non-bromine halogens are concerned, the matter is debatable also. We leave it to Appellants and the Examiner to work out an acceptable answer.

H.

Part of the problem in this case may be the inaccurate manner in which Appellants describe their invention. The first paragraph of 35 U.S.C. § 112 requires that the invention be described in full, clear, concise and exact terms.

In our view, one example of a lack of clarity is the use in Table 1 of "invention" and "comparative."

For example, vacuum strip temperatures of 160° C can be found in the "comparative" Example 1 and Example 2. When one looks at the specification, however, one find "that stripping temperatures under reduced pressure of at least about 160° C appear to be necessary, preferably from 160° C to about 300° C, and "more preferably" from about 180° C to about 220° C. (Pub. 2005/0101761 at ¶ [0052]). As noted earlier, the original claims essentially called, and the current claims call, for the "more preferably" embodiment because they all are limited to a vacuum strip temperature of at least about 180° C. *See* Original claims 1 and 10. Of course, there is nothing wrong with an applicant limiting its claims to its preferred embodiments.

One possibility is that Appellants regard the use of a stripping temperature of 160° C to be their invention, albeit not their preferred

embodiment. Consistent with this possibility, Appellants' use of "comparative" in Table 1 may mean "non-preferred embodiments" and Appellants' use of "invention" in Table 1 may mean "preferred embodiments." An amendment might clarify the matter and obviate some of our concerns.

With respect to "reducing," Appellants may mean reducing halogen and Group IIIB metal levels normally present in crude PAO. Appellants make reference to reducing residual bromine levels to no greater than 170 ppm. (Pub. 2005/0101761 at ¶ [0052]). However, included within the "invention" experiments in Table 1 are experiments in which the bromine levels were reduced only to 206 ppm, which is higher than 170 ppm. *See* Example 22.

I.

We have made a new ground of rejection based on the record before us. In our view, as indicated earlier, the issues discussed in connection with the new ground of rejection need to be resolved in the Patent and Trademark Office before any patent is issued. The claimed subject matter does not appear to be barred by the prior art. Nevertheless, if a patent issues, the claims should be limited to subject matter which the Appellants regard as their invention and the claims must be clear.

We recognize that a specification of patent application "constitute[s] one of the most difficult legal instruments to draw with accuracy." *Topliff v. Topliff*, 145 U.S. 156, 171 (1892). This case confirms the Supreme Court's observation in *Topliff*.

It is possible that amendments to the claims and specification can overcome our concerns. We leave it to Appellants to present an appropriate

amendment and discussion and to the Examiner to determine whether any amendment and discussion overcomes our concerns.

## **VI. Order**

Upon consideration of the record and for the reasons given, the Examiner's rejection of claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over the combination of the teachings of Wettling, Ishikawa, and Huang is REVERSED.

We enter a new ground of rejection for claims 1-20 under 35 U.S.C. § 112, second paragraph, for reasons set forth herein, pursuant to 37 C.F.R. § 41.50(b),

37 C.F.R. § 41.50(b) provides that, "[a] new grounds of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner ...

(2) Request that the proceeding be reheard under 37 C.F.R. § 41.52 by the Board upon the same record ...

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). No time

Appeal 2008-1412  
Application 10/712,829

period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

REVERSED; NEW GROUND ENTERED 37 C.F.R. § 41.50(b)

Appeal 2008-1412  
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MAT

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